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STEARNS L.A.
AGRIC EXP STA
NEWARK DELAWARE

"Oh Tom, if you'd only fixed it last fall we wouldn't be in this fix now!"

Next spring, when every working machine will be worth its weight in gold, DON'T be caught unprepared. This winter every farm equipment dealer will be swamped with service work.

Pledge your working tools to Victory by signing up with your implement dealer now. Get in line—to make sure that every machine and tool you have is ready for its job in 1943.

**Stick to
Your FARM
EQUIPMENT
Dealer**



REPAIR NOW FOR A YEAR THAT WILL BE TOUGH!

NO MAN can kid himself about the new year that is coming up. It will be a hard year—tough and dangerous for the Armed Forces—tough to work out here at home.

Every farmer wants to make good in a big-production year for Agriculture. His own livelihood demands it, and the life of the nation is at stake. He knows that manpower will be short beyond all past experience. He knows that new machines will be very scarce and hard to get.

What can he do to prepare? What can YOU do? That's what counts, the nation over!

The most practical thing that you can do is to put every piece of your equipment in shape for

its maximum use when the time comes. Go over your machines NOW, while all your needs are fresh in mind. List the worn parts; itemize the work needed; check up on all service weaknesses in your tractor, machines, and tools; put workable, discarded implements back on the job. Dedicate your equipment—Pledged to Victory!

The first step to take is to Sign Up with your experienced FARM EQUIPMENT Dealer. He is fully qualified to

put the best possible performance back on your fields. He knows each operation and adjustment, he has the tools and the expert knowledge. He will have the parts if you give him time....Talk over

your needs with him. Get in line on his order books—so that you can count on getting the parts and be certain that all repair work is done when the season opens.

It will be the heaviest farm service winter in history. Thousands of forehanded farmers are already beating paths to the service shops of the men who know how. They are easing their minds on the prime essential to next year's operations.

The least, and the first, thing you can do is to consult your FARM EQUIPMENT Dealer. His job is Service for the duration, and first-come first-served!

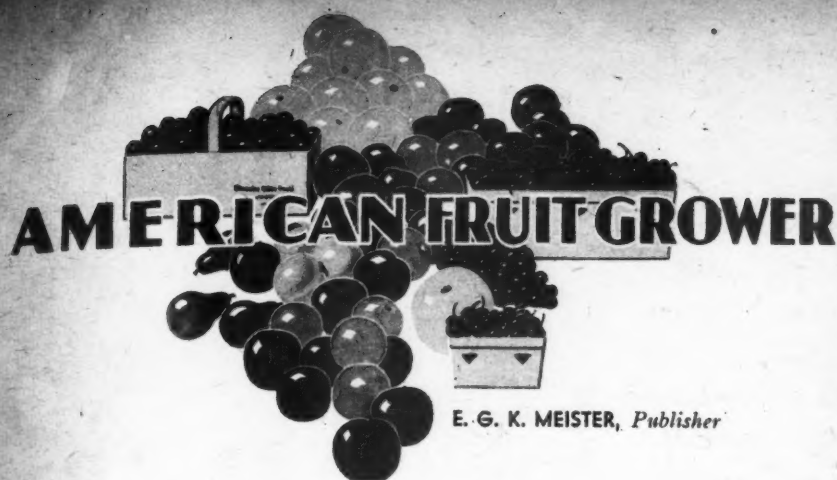
Write the address below for the practical booklet "Your Farm Equipment—Take Care of It and Make It Do!"

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue, Chicago, Illinois



Post this 11 x 14-inch sign, in patriotic colors, at your farm gate. Get it from your McCormick-Deering dealer.

INTERNATIONAL HARVESTER



E. G. K. MEISTER, *Publisher*

FRUIT GROWER AS A FIRE FIGHTER

THE country over, more and more precautions for the prevention of fires are being urged and observed for conservation and as still another means of fighting the war on the home front.

In rural areas, more and more, groups of volunteer fire fighters are being organized. In some instances, these volunteers get the benefit of training through the official fire department in the nearest large community. All this means protection of property and produce, extremely important in wartime. The added protection against fire also means reduction in fire insurance rates in many places.

One handicap to the efficient organizing of a volunteer fire corps in these days, however, is inability to provide them with fire fighting equipment. Here then, is the opportunity for the fruit grower to come to the fore as a fire fighter. High pressure spray rigs can be pressed into service as fire fighting equipment. There are some 252,000 spray rigs on the commercial fruit farms of this country. Why not enlist each one as emergency fire fighting equipment, under the direction of its owner as a member of a local volunteer fire fighter's unit.

Here's opportunity for the fruit grower to serve himself, his neighbors and his country on the home front.

FARM LABOR, OR MACHINES, NOT BOTH

FRUIT growers can join with others in the farm field, in crying aloud to Washington: "Take farm labor, or machines, but not both!"

The draft already has depleted fruit farms of experienced workers. Now with the youths of eighteen and nineteen soon to be called, the labor outlook on fruit farms for next season seems fearsome indeed.

One answer seems obvious, if nearly all manpower is to be drained from the farms, fruit farms included, machinery must be made available in greater quantities than under present priorities in order to continue producing the food the nation needs.

SPRAY MATERIAL SITUATION

UNCLE Sam warns that waste of spraying materials will impede the Victory effort and possibly cause shortages. Copper, mercury, formaldehyde, chlorine and zinc are used in our most important fungicides and they are also among the principal raw materials needed for making munitions. Because munitions come first, fruit growers will have to use these and other spray materials more carefully and with less waste than they have in the past. Uncle Sam asks for the cooperation of all fruit growers and vegetable growers in the conservation of critical copper fungicides and arsenical insecticides as well as pyrethrum and rotenone products, if the needs for insecticides and fungicides to produce wartime fruit and food requirements are to be filled.

FOR VICTORY



BUY UNITED STATES SAVINGS BONDS AND STAMPS

"MY COUNTRY 'TIS OF THEE"

THE government has taken command of practically all food prices but no ceiling is imposed for the time being on fresh apples.

Prices of potatoes, dry onions, and citrus fruits were ordered roofed in a 60 day "emergency ceiling" to be replaced later by permanent O.P.A. regulations.

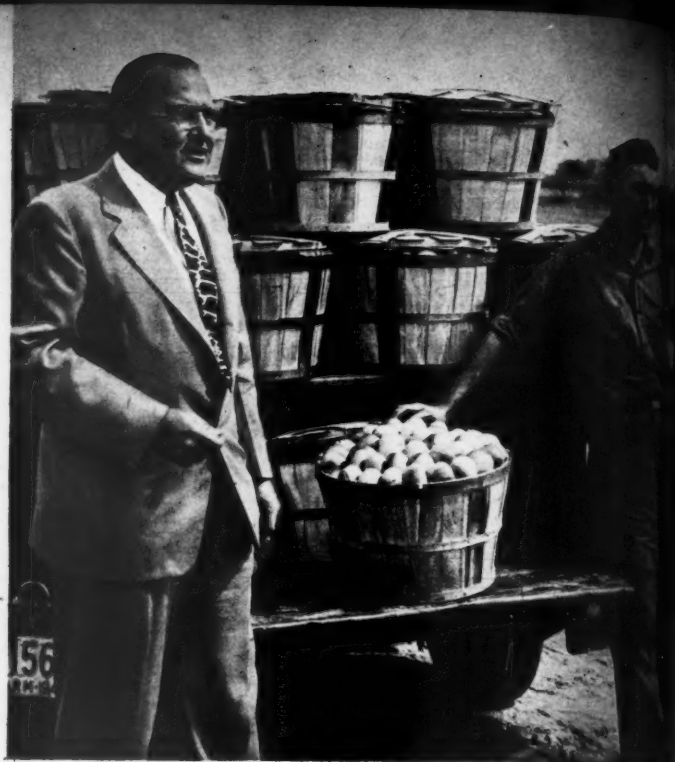
"Little is left out now; we have reduced to a very few things the food items not under O.P.A. ceilings," administrator Henderson announced. These few things consist of fresh fish, peanuts, and fresh fruits and vegetables other than those noted above. They are exempt from price control "for the time being."

So far as we have been able to determine up to now, there is no activity at O.P.A. in preparation for ceilings on fresh apples any time soon. But the previous general exemption to all fresh fruits and vegetables has been discarded, says Truman Nald, executive secretary, the National Apple Institute.

Potato prices were near, and orange prices slightly above levels at which ceilings may be imposed under the law; both are normally due to show seasonal declines soon. Apples still have some distance to go before average prices, as tabulated by the U.S.D.A., reach parity for apples as currently calculated by the U.S.D.A. The latest reports indicate apples to be at 82% of parity. But these figures are capable of being radically changed.

HERE'S SALES IDEA

GOING to market is becoming one of the major problems of fruit growers because of the war emergency. Restrictions upon the use of trucks, the rubber shortage and impending gasoline rationing make it almost impossible to "roll along the highways" in any and all directions in search of the best markets and best prices. Every grower therefore should read the accompanying article on a new grower-operated market recently opened at Fremont, Ohio. The bringing together of sellers and buyers at a centralized place as outlined in the article may be just the solution awaited by growers and buyers in other parts of the country. The benefits offered both sellers and buyers through such a marketing plan, the savings in truck mileage, tires and gasoline seem not only practical and profitable, but in times like these, essentially patriotic.—Editors.



"Fifty-one dollars. Do I hear \$52 - 51 - 51 - sold \$51.00." So went a bushel of apples belonging to Ben H. Davis (right) auctioned by County Agent, W. B. Reading, at the opening day of the Fremont Wholesale Fruit and Vegetable Market.

GROWER-OPERATED MARKET AT FREMONT, OHIO

"WE'LL match you, dollar for dollar!" The business men of Fremont, Ohio, challenged the fruit and vegetable growers of this area, at the annual businessmen's dinner during the winter of 1940. The results of this challenge have materialized into the Fremont Wholesale Fruit and Vegetable market which opened this fall.

The serious need of a better system of marketing fruits and vegetables in the Fremont area was realized much before the winter of 1940. The story, in fact, dates back to the depression year of 1930. Muskmelons, on the highway from Fremont to Old Fort, Ohio, were selling on occasions two bushels for 25 cents at the roadside stands. This acute situation caused Mr. W. B. Reading, County Agricultural Agent from Sandusky County to make a detailed study of roadside markets, the low retail prices of their produce, and the falling production of fruits and vegetables in the Fremont area.

In 1931 Carl S. Bittner, County Agricultural Agent of Ottawa County discussed with Mr. Reading the fruit and vegetable market at Benton Harbor, Michigan, the markets yearly sales which amount to several millions of dollars worth of produce. It was then that Mr. Reading conceived the idea of the Fremont Wholesale Fruit and Vegetable Market to be patterned after the market at Benton Harbor. Unquestionably this market will prove to be one of the most im-

By JOHN J. LOUZECKY

portant agricultural projects that has happened in this area for many years.

There have been no hasty actions, no stones left unturned, no fool-hearty proposals. The farmers in the Fremont area, with the aid of Mr. Reading have studied various marketing plans for two years, and in the summer of 1941 granted him a three months leave of absence to make a special study of the problem. Six weeks Mr. Reading spent at Ohio State University studying advanced marketing and outlining the plans to pursue. Three weeks were spent on the Benton Harbor market at Benton Harbor, Michigan. Mr. Reading also studied the plan for marketing produce in the Hamilton, Ontario, area, which is largely government controlled. From here he journeyed to Syracuse, New York, and then to Menands, New York. Welding together the best features of each market, the Board of Directors of the Fremont market used the Benton Harbor system of marketing and the Menands, New York, method of financing.

Established in 1930 the Benton Harbor market has grown by leaps and bounds. During its first ten years in operation Benton Harbor growers received \$35,000,000 for their produce—an average of \$3,500,000 per year. The growers of Benton Harbor area received \$4,256,035 in

1941 for their fruits and vegetables. A duplicate of this record at Fremont is not probable for several years, at least, but when the spirit and keen interest shown by farmers, buyers, and businessmen alike is noted, one could safely say that the sales figures for the Northern Ohio market soon will be closely comparable to those of Benton Harbor.

The Fremont market will operate as a wholesale market. Fruit and vegetable producers will bring their produce to offer to buyers from outlying cities and states, especially those in the East and South. Buyers from 29 states travel to Benton Harbor to obtain produce lacking or out of season in their own states. It is not unlikely to expect wholesalers from 15 or 18 states at the Fremont market after it becomes established and truckers feel certain they can load their trucks with produce shortly after arrival. A producer who brings a load to the market regardless of size or tonnage will pay 15 cents to enter the market and sell his load. He then drives in line with other vehicles already on the market and offers his load for inspection by the buyers. The grower may sell to the highest bidder or he may hold his produce in hope of getting a better offer. The produce is not auctioned, but is sold individually from grower to wholesaler. Once the grower agrees to sell his load, however, and takes the

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IN THE NEWS

J. B. CARY

Smiling, witty, humorous Joe Cary, president and general manager of the Niagara Sprayer and Chemical Company of Middleport, New York, is now president of the Agricultural Insecticide and Fungicide Association.

He succeeds Warren Moyer of Bound Brook, New Jersey, who has been placed in charge of the insecticides and fungicides on the War Production Board in Washington.



J. B. CARY

The AIFG will attempt to organize the manufacture and distribution of spraying and dusting materials so that the production of vital foods will not be hampered by orchard pests.

LESTER G. DEAN

One of the oldest and largest nurseries in the United States has been purchased by an Ohio fruit grower. Storrs and Harrison Nurseries, Inc., Painesville, Ohio, established in 1854, is now the property of Lester G. Dean, manager of Grand River Orchards of Geneva, Ohio.



LESTER G. DEAN

Dean is well known in Ohio horticultural circles and is an able and energetic fruit grower. The huge Grand River Orchards at Geneva, Ohio, are under his successful management.

MAJOR CLIFF E. CHASE

After a month's tour of the nation's markets, Major Cliff E. Chase, secretary of the Washington State Apple Commission, returned to Wenatchee, Washington, the middle of October, and expressed the opinion that Washington growers will have clear sailing after the first of the year.

He stated that, "We may have a little hard sledding for a time in some markets, but cheap stuff which is being put through these markets now will either be sold or taken off by the freeze. People generally don't care how much they pay if the quality is there and with bananas and a lot of other things out of consumption entirely, apples hold a fine position."

The Commission is working with the government on the Victory Food Special, which is October 5 to November 1 in Washington state but October 22 to November 7 nationally.



MAJOR C. E. CHASE

NOVEMBER, 1942

They're
Coming in... *Lights Up!*

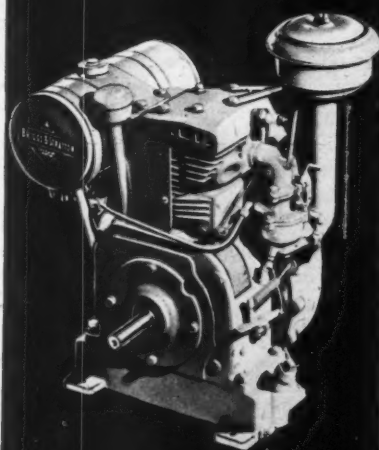
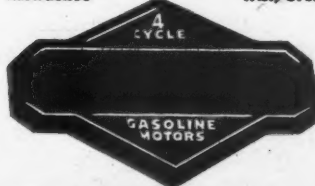
Roaring planes returning to outlying and secret air bases far from electric power lines — inky blackness below. Then compact, portable units, powered with flash-starting Briggs & Stratton gasoline motors, swing into action and floodlights gleam. Ample light for a safe landing and for speedy service. This is but one of scores of jobs that more than a million and a half Briggs & Stratton motors are doing daily — with our armed forces everywhere, as well as on farms, in homes and for industry.



For the duration, in ever increasing quantities, Briggs & Stratton 4-cycle, air-cooled motors are being produced only for war and approved civilian uses.

To assist in the conservation of critical materials, owners and operators of Briggs & Stratton motors are urged to give them more frequent inspection and care than normal, to avoid unnecessary need for repair parts. If additional service or parts are needed, go to your nearest dealer or an Authorized Service Station.

BRIGGS & STRATTON CORP.
Allwaukee Wis., U. S. A.





This McIntosh orchard, part of the Pennsylvania State College Agricultural Experiment Station planting, has averaged over 500 bushels per acre in yield in eight out of the last nine years. It will pack about 1,000 bushels per acre this year. Soil cover has been non-legume with spring harrowings. Complete fertilizer has been used.

ORCHARD FERTILITY DURING THE WAR EMERGENCY

By FRANKLIN P. FERGUSON

"WITH our present knowledge of the situation we can count on no more than 80 percent of our normal requirements of all nitrogen for this fall and the 1943 crop year. If the number of available boats is not increased, the supply is certain to be far less than is now anticipated."

This excerpt is from letter 3626-RRB, dated August 3, from the Chemical Branch of the War Production Board, and it contains information of special importance to all eastern fruit growers, as well as of interest to all other fruit growers.

That more fruit than usual will be in demand as long as the war lasts, that nitrogenous fertilizers commonly are used in increasing orchard yields, and that all commercial nitrogen now is subject to federal rationing because it is needed in munitions are accepted facts.

Fruit production can be increased materially in the Cumberland-Shenandoah area, as well as elsewhere, but to produce more fruit with less nitrogen will require careful planning and management, delegates at the Cumberland-Shenandoah Fruit Conference held during peach harvest at Gettysburg, Pa., agreed. This conference has met periodically for many

years and members consist of experiment station and extension service workers engaged in solving problems of fruit growers in the states of West Virginia, Maryland, Virginia, and Pennsylvania. More recently, representatives from New Jersey and Delaware have attended meetings.

Representatives of the Plant Food Research Committee of the National Fertilizer Association and of other phases of the fertilizer industry also attended the recent conference, and they brought out that:

There is a sufficient supply of superphosphate and potash available to meet expected needs provided transportation difficulties do not interfere with distribution. A larger proportion of 18 percent superphosphate will be produced than normally. The supply of limestone is adequate.

At present, the prospects are for a supply of commercial nitrogen from 2/3 to 3/4 of normal. A larger proportion than usual will be from organic sources because of increases in cottonseed and soybean meal and more of these materials will be used in mixed goods.

Because of the amount of sulphate of ammonia produced in this area and the ban on unnecessary trans-

portation, a larger proportion of the available nitrogen will be in the form of sulphate. Growers are advised to use nitrogen in any readily available form which they can secure.

The federal agencies responsible for the distribution of nitrogenous fertilizers have asked the fertilizer industry to assist in allocating available supplies by educational efforts with their customers and by restricting sales according to need and to the customer's usual uses.

The fertilizer industry, through the National Fertilizer Ass'n, and the Inland Ass'n, will give wide publicity to the emergency bulletins of the various states and will place copies of the report of the Cumberland-Shenandoah conference in the hands of fertilizer distributors in the fruit areas.

The stimulus of higher prices and increased educational efforts by extension agencies and fertilizer dealers will help, but the effective allocation of nitrogenous fertilizers by the government through the industry and their wise use by the fruit grower are essential, those attending the conference agreed.

As far as possible commercial nitrogen should reach the fruit grower in unmixed forms since he must use the available nitrogen primarily for tree growth during the emergency.

A committee composed of L. P. Batjer, Bureau of Plant Industry, U.S.D.A.; A. L. Schrader, University of Maryland; W. J. Schoene, Virginia Agricultural Experiment Station; R. H. Sudds, University of West Virginia; and F. N. Fagan, Pennsylvania State College, compiled recommendations for eastern fruit growers from findings of the conference.

The Apple Orchard: In mature orchard, where for several years good sods have been grown and where tree growth and yield are satisfactory, the 1943 nitrogen applications may be kept as low as 3 lbs. of nitrate of soda (or the equivalent in sulphate of ammonia) applied in a ring under the spread of the branches. Such reduction in nitrogen could be made for two or three seasons on this type of orchard without decrease in fruitfulness. In such orchards, if no commercial nitrogen is available, increasing the cultivation will maintain tree growth and yield for several years, but will destroy the reserve organic matter in the soil and eventually lead to extensive water loss and soil erosion.

In orchards on shallow soils with low organic reserves, reduction of nitrate fertilization below 4 to 5 pounds will lead to reduced yields and weakened trees by the second or third year even if cultivation is increased.

Available nitrogen supplies for the apple orchard should be supplemented by: (1) Growing legume sods; (2)

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Here's a very successful example of a barn converted into a cold storage on the farm of Ivan T. Quick in northern Ohio. Within this barn he built a modern 10,000 bushel two-room cold storage out of what used to be a storage space for packages and spray materials.

DO SOMETHING NOW ABOUT COLD STORAGE

By DEAN HALLIDAY

THE war has demonstrated on a colossal scale the need of being self-sufficient.

The war when focused down to the individual fruit farm has also demonstrated that the normal fruit farm to be self-sufficient should have its own cold storage.

Tire rationing, trucking restrictions, gasoline rationing, should make the fruit grower realize he must have his own farm cold storage in order to control the marketing of his crop.

The war, it is true, has created priorities which make it almost impossible to build and completely equip a mechanically refrigerated storage at this time—but priorities do not prevent one from making plans now for a fruit farm storage.

In addition to planning for a cold storage, many growers perhaps can go ahead, despite emergency conditions and restrictions, and start to put their plan into execution—if they do as others have done and set about to convert an old farm barn into a cold storage.

Many fruit farms have an old barn or similar building which is now used only for miscellaneous purposes. Many

such structures were so well built originally they now offer a short-cut in the construction of a sound storage. The apple-growing areas of the country are dotted with practical, profitable storages created from converted barns. Each one represents sound, progressive thinking and planning upon the part of its owner—plus the ability to act on a good proposition.

Despite restrictions this is a good time for many growers to build a storage or convert a barn into one. Fruit crops are bringing profitable prices, and money in hand helps to solve labor and other shortages. With the money available for the building of a storage it would seem wise to make a start even if installation of mechanical refrigeration equipment must be postponed for the duration.

In converting old barns into cold storages other growers have made use of secondhand lumber. New lumber as needed for purposes of a farm storage can be obtained under present farm priorities.

Strictly speaking a cold storage is any well constructed building that is insulated to keep out heat and retain cold. A grower should bear this in

mind, whether he builds a new or converts a standing structure. Insulation is the secret to a good cold storage and fortunately insulation materials are still available.

It would seem that the most practical plan for the average grower to follow would be to set about converting a barn into a storage on a "duration" schedule. That is, let him make a start with the labor and materials he has on hand, or can conveniently obtain. Let him proceed with the work as fast as his labor, materials and funds permit. When he can speed up a certain part of the conversion job, so much the better. When for any one of a number of reasons he must slow down on the job, or stop temporarily, let him do so without disappointments. The farsighted grower, even though he starts construction now, will be content to look ahead to having a completely finished, completely equipped cold storage soon after he has won the war.

In some cases, even under present emergency conditions, it will be possible to convert an old barn building into a common storage as a first step

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GROWER-OPERATED MARKET

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buyer's ticket, he cannot reverse his decision if offered a higher price by another buyer. This, therefore, gives the farmer complete control of the sale of his produce.

If the production trends of the Benton Harbor area, according to the United States census figures for the decade 1929 to 1939, were placed upon a graph, a sharp increase could be noted in the fruit and vegetable production in the area surrounding Benton Harbor, Michigan. In fact the line would rise at an angle of better than 45 degrees. Conversely, and most astounding is the fact that production in the Fremont area of the same fruits and vegetables during those same years, 1929 to 1939, declined at approximately the same rate. The reason for this decline in production, as Mr. Reading found in his roadside stand studies, is believed to be the low prices received by growers who compete against each other for sales rather than with each other for these same sales.

The following data is a comparison of the crop production of the Fremont and Benton Harbor areas. Note the excellent possibilities of developing various crop acreages in Sandusky and adjacent counties, for example, small fruits and stone fruits and certain vegetables.

Crop	1939 Production ^{**} Fremont Area	1939 Sales at Benton Harbor Market
Beans (Snap).....	348 Acres	21 Acres
Beans (Lima).....	626 Acres	61 Acres
Beets.....	110 Acres	2 Acres
Cabbage [*]	2,875 Acres	40 Acres
Cantaloupes.....	1,657 Acres	1,465 Acres
Carrots.....	142 Acres	3 Acres
Cauliflower.....	21 Acres	30 Acres
Celery.....	349 Acres	295 Acres
Corn (Sweet)*.....	6,064 Acres	45 Acres
Cucumbers.....	474 Acres	275 Acres
Lettuce.....	80 Acres	3 Acres
Onions (Dry).....	274 Acres	35 Acres
Peas (Green).....	82 Acres	2 Acres
Peppers and Pimentos.....	370 Acres	45 Acres
Radishes.....	97 Acres	0 Acres
Spinach.....	194 Acres	0 Acres
Squash.....	535 Acres	0 Acres
Tomatoes [*]	11,565 Acres	1,000 Acres
Turnips.....	85 Acres	2 Acres
Watermelons.....	176 Acres	0 Acres
Potatoes.....	8,833 Acres	215 Acres
Apples.....	1,223,110 Bu.	965,332 Bu.
Cherries (Sweet).....	147,575 Lbs.	1,483,452 Lbs.
Cherries (Sour)*.....	2,217,250 Lbs.	903,456 Lbs.
Peaches.....	307,556 Bu.	1,033,323 Bu.
Pears.....	75,208 Bu.	186,286 Bu.
Plums.....	14,441 Bu.	66,470 Bu.
Grapes.....	5,746,895 Lbs.	19,815,888 Lbs.
Blackberries.....	110,238 Qts.	227,680 Qts.
Currants.....	31,563 Qts.	374,616 Qts.
Raspberries (Black).....	302,605 Qts.	2,114,496 Qts.
Raspberries (Red).....	172,209 Qts.	2,771,184 Qts.
Strawberries.....	1,112,332 Qts.	10,548,024 Qts.

NOTE: Acreage necessary in Fremont Area to produce 1939 Benton Harbor Sales.

*Includes acreage under contract.

**Above figures from 1940 U. S. Census.

It was planned to form a corporation with \$10,000 in stock, but the market exceeded all expectations and is incorporated at \$20,000. Following the Menands, New York, market's method of financing, growers of the Fremont area subscribed common stock at \$25.00 a share. The businessmen of the area have subscribed for preferred stock in larger denominations. The preferred stock

will pay dividends of 4% cumulative interest. As the market expands and shows profits the farmers of the area may call in and buy the preferred stock of the businessmen, thereby making it a farmer owned and farmer operated wholesale market. Harold F. Miller, Green Springs, Ohio, grower of 100 acres of potatoes stated "We have everything to gain and nothing to lose." This is indicative of the sentiment of all stockholders in the Fremont Wholesale Fruit and Vegetable Market.

Officers of the Fremont market have been equally divided among the farmers and businessmen. The officers are as follows: Louis Danzinger, president; Ben Davis, vice president; Robert W. Lucas, secretary; and B. W. Reading, agricultural advisor. Highly paid officials are taboo. There is no possibility of any official lining his pockets. In fact, no one will be on the payroll except the labor absolutely necessary to operate the market efficiently.

The Benton Harbor area, includes a radius of 40 miles. If we use Fremont as an axis and inscribe a 40 mile circle around it, we include Sandusky, Ottawa, Huron, Erie, Seneca, and Wood counties. All of these counties are areas with soil well adapted to the production of fruits and vegetables. Closeness to the lake has a stabilizing and tempering effect on the weather while the high type of producer in this region makes the success of the market more of a certainty.

Some producers in the Fremont area travel farther than 40 miles to deliver their produce. Truckers, before the market came into existence, coming to Fremont often traveled here and there for a day or two to get a load, wasting tires and gas, and many times leaving with only half a load.

Fruits and vegetables sold on this market will travel on the roads at night, so the wholesaler may sell to the retail merchant early the next morning. Under a system of this type there will be no Saturday market. Instead there will be a market day on Sunday. The produce will be harvested Sunday morning, wholesaled in the afternoon and retailed by the buyers on Monday morning. The housewife can then purchase fresh crisp fruits and vegetables on Monday morning, which is not so commonly possible.

The Fremont market, located in East Fremont, Ohio, directly on Route 20, consists of six acres of land. On the east and west sides are the loading docks, 150 feet long and 10 feet wide. Between the docks are aisles in which the growers can drive and sell their produce. In the immediate front, flying the flag of Uncle Sam,

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ORCHARD FERTILITY

(Continued from page 6)

Annual light, trashy cultivation in late fall or early spring with reseeded with legumes if necessary; (3) Maintaining the lime supply in the soil high enough to grow heavy legume sods; (4) Using superphosphate and potash when these will increase the soil cover; (5) Growing mulching materials, preferably legumes, outside the orchard and spreading where the present cover is thin in the orchard; (Green mulches will cause the least nitrogen depression, but will be decomposed much quicker than dry, mature mulches). (6) Wise pruning to balance top growth to the potentialities of the soil; (7) Earlier and heavier fruit thinning, and (8) Maintaining healthy leaves through proper spraying.

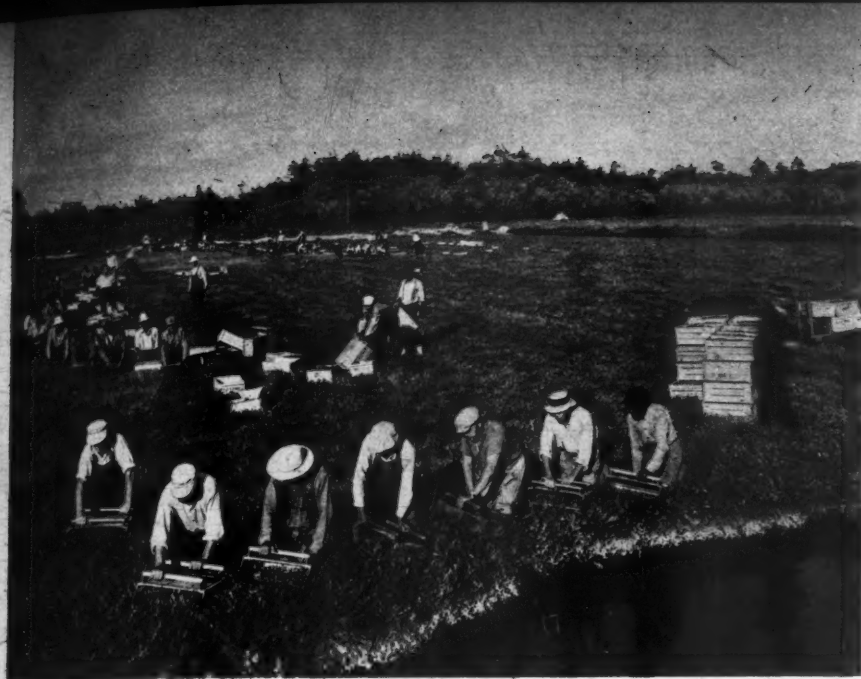
Where cultivation is called for, those growers who have horses are urged to use them. We have done satisfactory work with horse-drawn tools in the past and can do so again; also, we can save gas, oil and tires.

If the responsible government agencies decide additional fruit should be produced in the northeast to ease transportation problems (and improve diets), those apple orchards now producing less than the average of about 5 bushels per tree per year should receive the fertilizers and lime necessary to grow heavier legume covers and sufficient additional commercial nitrogen to secure a desirable terminal growth. If increased production is desired, government agencies should so instruct the fertilizer industry and should make provision for the necessary fertilizers and lime.

The Peach Orchard: If peaches are to be kept in profitable production some commercial nitrogenous fertilizer must be used. From 3 to 5 pounds of nitrate of soda, or its equivalent in other readily available forms may be required. With mature tree, making on the average 15 inches or more of terminal growth in the upper half of the tree, the usual application of nitrogenous fertilizer may be decreased by 1/5 unless the cover growth is being increased by shortening the period of cultivation.

Split applications of nitrogen in the peach orchard are desirable, namely, in early spring and late spring. If the crop is destroyed by frost, the second application can be saved. To secure the desired fruiting area, it is necessary to have terminal growth sustained through the early summer. The second fertilizer application in late spring aids this growth.

If the terminal growth of the upper half of the tree is less than 15 inches and there are indications that nitrogen shortage is a factor in reduced growth, the amount of nitrogen usually applied in the orchard should be increased and supplementary measures should be taken to secure better growth.



Cranberries are gathered by hand, the workers using scoops with tines protruding from the ends. The tines rip the berries from the wiry tangle of stems and the berries roll back into the scoop. The scoops shown here are fifteen inches wide with ten-inch fingers, about one-quarter inch apart. Picking begins shortly after Labor Day and lasts about two months. A good cranberry picker may average 10 to 20 bushels a day.

UNITY and cooperation of effort—two of the most potent words in present-day consciousness—are also potent factors in the thriving cranberry business. Cooperation among the growers in the exchange of cultural information and unified marketing effort have brought this century old industry to a completely modern peak of efficiency. An integrated system of distribution of the red berry grown chiefly in the three widely separated regions of Massachusetts, Wisconsin and New Jersey has eliminated a glutted market in one section, a famine market in another. Cooperation and speed by the United States Weather Bureau, in disseminating frost warnings, have played a large part in reducing the potential loss of the cranberry crop from 19.8 percent during the 1913 to 1923 period to only 3.3 percent in the ten years from 1924 to 1934.

First cultivation of the cranberry began about 1846 in the town of Yarmouth on Cape Cod, so the chronicle of the bright red berry tells us. Now that sandy strip of Cape produces three-fourths of the total crop, 60,000,000 pounds, from its 14,000 acres of cranberry bogs. New Jersey, Long Island, Wisconsin, Oregon and Washington also grow the tart bright berry. Their combined total acreage is about 5,000.

It is entirely fitting that the cranberry should be the largest export business in New England, since tradition says it made its banquet debut on the first Thanksgiving Day menu of the Plymouth colony. Certainly, the cranberry which grew wild along the marshes of the Cape was used by the Indians in ground meat called Pemmi-can and was cooked with wild honey to

make a sweet sauce having medicinal value. Today's cranberry gets its name from the Indian term "cranberry", because the delicate pink cranberry flower looked like the head of a crane to the redskins.

This 1940 fruit is, however, a vastly different food from the small sour berry known to the Pilgrims. Over a hundred years of scientific cultivation has improved its size, flavor and nutritive content. After the first timid venture at cultivation, the raising of cranberries spread rapidly. Every year now sees the beginning of new bogs and an increase in yield from the old ones.

Foresight is a requisite of cranberry raising, since a cranberry bog takes from four to seven years work before it begins to give a capacity yield, and costs from \$1,500 to \$3,000. But properly cared for a bog never wears out. Many bogs on Cape Cod are over 75 years old, while New Jersey has some that have been growing cranberries for over 60 years.

Plenty of water is a necessity for healthy cranberries. Peat soil, with a layer of sand on top to mulch the dampness of the peat and anchor down the runners of the cranberry vine,

(Continued on page 12)

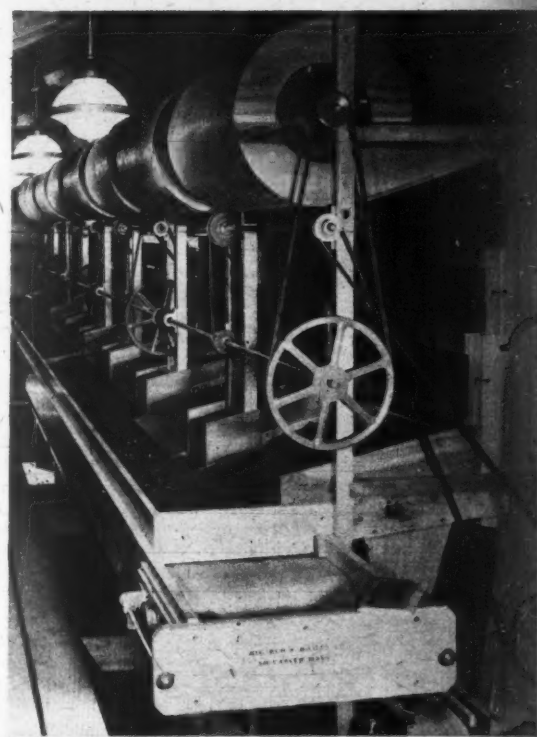
Upper right—In the screening house, berries are dumped into a machine to blow out twigs and stems, then moved onto a belt passing through separators which bounce the berries to determine whether they are firm and solid. Good cranberries bounce readily. Bad ones fall through separators to discard boxes.

Lower right—For further sorting, cranberries pass along a belt where quick-moving girls pick out all under-ripe or otherwise imperfect berries. Sixty-five percent of cranberry crop in this country is marketed through American Cranberry Exchange, a growers' cooperative.

AMERICAN FRUIT GROWER

TRADITIONAL AMERICAN FRUIT GETS MODERN COOPERATIVE HANDLING

By DORA MAY TALCOTT



WORMS FOR PROSPERITY

By CLAIRE GILES

TURNING in at a rustic gate and down a side road in Highland Park, Los Angeles, one comes face to face with big business—run by a woman—in worms. A rambling building picturesquely hugging one-quarter of an acre of terraced river bank is headquarters for the "California Earthworm Farms." This growing enterprise owned and operated by Mary B. Leasure and associates is sending out earthworm "egg capsules," "spawn bricks" and breeding worms in units from two ounce cans to 375 gallon cans to every state in the union. Customers are truck farmers, nurserymen, orchardists, poultrymen, trout farmers, suburban vegetable gardeners, the home gardener and hobbyist.

You approach among pepper and eucalyptus trees, beds of blooming narcissus, ferns, cactus and rock-bordered walks; note the absence of bustling activity and wonder where is the "farm." As you are shown about you find that both the activity and the farm are mostly underground. Here, scattered about the grounds, are shallow boxes filled with rich looking black soil, and there are the invisible workers. They are prodigiously industrious, are not fussy about their food, and never go on strike. Miss Leasure has thousands—if not millions—of these humble toilers in her service, and they pay dividends.

How does a woman happen to be in such a pioneering venture? Well, haven't women always pioneered? Mary B. Leasure was raised on a farm, always loved working outdoors, and later on enjoyed playground and recreation activities—and camping. After San Diego Teachers' College and the University of Southern California, majoring in sociology, and several years in professional social work, she stumbled on an earthworm farm while recuperating from an illness, became interested as a hobby that would keep her outdoors, and now is deep in a sound and profitable business; has two women and two men working with her, and with characteristic woman's vision sees far-reaching possibilities in educating agriculturists and individuals to the value of increasing the selectively-bred earthworm population of cultivated areas and colonizing wormless soil. Plans are under way for a larger place in which to expand at Ontario, California.

The earthworm is not at all the unimportant creature you had thought, but a soft, squashy tube in which is built a miniature industrial plant which does to soil what a modern refinery does to crude oil, and more. It is nature's own plow, chemist, cultivator, fertilizer and distributor of plant food. These facts have long been known to naturalists, scientists, and some agriculturists, but no practical application on a large scale (at least in recent times) has been made of the knowledge. Worms are said to have been used to fertilize the Nile Valley in Cleopatra's time. Darwin wrote a book about them and John Burroughs said, "They plow, drain, cultivate, fertilize and level the soil."

The present commercial venture is the outgrowth of experiments over a long period by George Sheffield, of Los Angeles, while engaged in other lines, including landscaping, where he experimented with the value of worm culture beds and droppings used to fertilize plants. His grandfather, a successful Ohio farmer, discovered that better crops grew on land impregnated with "angle worms"; encouraged their propagation; grew better crops than anyone else, and sold his seedlings for a high price.

His grandson remembered, and carried on experiments to breed a superior worm, the final result being a selectively bred "Soilution" earthworm—a little four-inch animal that virtually does a farmer's culti-

vation for him, and which may in time effect revolutionary changes in agriculture, fruit growing and poultry raising. He has written a book explaining their use.

There are about a thousand varieties of earthworm, but the selectively bred worm is a domestic, non-migratory type, is reddish brown, headless, eyeless and toothless, and has no external antennae or feelers, the body being a succession of ring-like segments. There is a rather complex internal system, with a brain, intestines, various glands and ducts, but no lungs, breathing being done through the moist epidermis. It

ing, in which is stressed the need for putting back into the soil the natural elements taken out, instead of the wasteful and destructive method of first depleting the soil and then using strong chemicals which do not feed the organic life—the bacteria—in the soil. The soil already "has everything," which the strong chemicals destroy.

Selectively bred worms are friends to all, even the golfer, whose green he does not despoil with mounds as do the larger worms but conditions instead, where the soil is impregnated. They are meticulous gardeners, careful not to harm the tiniest rootlet, but have such enemies as birds and moles and certain varieties of ants which denude the soil of needed fats and sugars.

This master triturator, cultivator and chemist is also a master aerator. His three-to-eight-foot burrows let air and moisture

DARWIN DEMONSTRATED VALUE OF EARTHWORMS

In addition to his famous books, "The Origin of Species", and "The Descent of Man", Charles Darwin, the famous naturalist, who, it has been said, so influenced the world that it can never be the same as he found it, also wrote on "Vegetable Mold Through The Action of Worms". In this book Darwin, for the first time, explained how the mold which forms the outer skin of the fertile portions of the world, nourishing its trees and plants, has been created by the action of the earthworms.

has no jaws or teeth, the mouth being a sort of suction pump, drawing food into the body, where it is crushed into a fine powder. The worm is hermaphroditic, each being male and female, despite which it is necessary to fertilize each other. They propagate every two weeks, producing an oval egg-capsule.

There is a sort of sac-like band on the body which holds the eggs, and this is worked forward and slipped over the head and both ends snapped together, zipper-like, making an egg-sac. These are deposited under manure piles, stones, boards, etc., hatching out in three to four weeks, one to five or more worms to each capsule. The young fend for themselves as soon as hatched, mating in 80 to 100 days. Each mating produces roughly 300 worms a year.

They are said to indulge in a sort of "talking"—a sucking sound when opening and closing the mouth, "like drops of water from a leaky spigot." A scientist with an unusually acute sense of hearing says that they speak at a vibratory frequency beyond the reach of the human ear—like those dog whistles only dogs can hear.

These little "intestines of the earth," as Aristotle called them, are natural soil makers and revitalizers—a combination chemist and borer. While constantly feeding on soil, leaves, roots and other decayed matter, pulverizing and excreting a deposit of black vegetable mold—castings rich in elements necessary for plant growth—they are with great efficiency preparing the soil so that its mineral and chemical qualities are more easily absorbed by the tender roots and plants. This "trituration" results in a healthier, more edible plant, rich in food elements, more rapid growth, and healthier, more fertile seeds. Nitrogen, the fertilizing principle first to be depleted, is increased in quantity. In a colonized rich soil there will be as many as 30,000 to 1,000,000 worms to the acre, and many tons of dirt will pass through their bodies. Some naturalists claim that all fertile areas have at some time passed through the bodies of earthworms.

Farming with selectively bred earthworms bears a close relation to the Bio-Dynamic method of farming and garden-

to the roots of plants, making available food elements below the roots, and furnish waterways that store water for winter rains against the long, dry summers. Impacted soil is said to account, in part, for the lack of flavor of certain fruits and vegetables grown on irrigated land, though the soil in Southern California is said to be devitalized—that is, certain elements in the soil need to be made available for plant life.

Various branches of the Government are experimenting with the use of worms. Experiments were made with some trees from the Forestry Service, impregnating seedling pines growing in hard, decomposed granite in the Sierra Madre Forest Reserve, each tree being carefully marked. The conifers grew in two years to a height usually requiring five. Which heads right up to reforestation, where the surface has (literally) hardly been scratched. Since earthworm bores enable the soil to store water that would otherwise run off, carrying top soil with it, their possible usefulness in soil erosion prevention and reforestation can hardly be estimated. In his report to the Government after the Mississippi Valley floods, a reclamation engineer named Mason said that with the use of earthworms the soil could be reclaimed in eighteen months, but that without it would take ten years.

A "culture bed" is a wooden box—or vegetable lug—two-thirds full of soil (or wood shavings, except Redwood), sawdust or leaf mold and compost, on top of which is thrown materials at hand—refuse from the table, waste nuts, even coffee grounds, egg shells, milk bottle tops and pieces of cardboard. No garbage collector is needed where there is a culture bed. Grass cuttings, dead leaves and roots, excreta from henneries and rabbit hutches all go into the worm maw and come out rich soil. So do even tin cans, which eventually rust and disintegrate (a worm's concept of "intestinal fortitude"). Only citrus rinds, scouring powders, poison sprays and strong chemical fertilizers are harmful.

One lug houses 500 to 1,000 worms. Holes are punched in the bottom for surplus drainage and to permit the egress from

(Continued on page 12)

COLD STORAGE

(Continued from page 7)

towards eventually equipping it with mechanical refrigeration. If metal air ducts are not available, wooden ducts could be installed for the duration. If the proper blower-type fan cannot be had, secondhand fans can be installed until new equipment again becomes available.

If a grower has a lake large enough to produce sufficient quantities of ice, or if supplies of commercially produced ice are conveniently available, he can consider an ice-bunker type of farm cold storage. In some sections of the country the ice-bunker type of storage has proved practical and profitable. In converting an old barn into a storage the ice bunker type can be considered if an economical supply of ice is available.

Dependent upon the problems which confront him, each grower must plan for his cold storage accordingly, whether he intends to convert an old structure or build a new one from the ground up. Just what and how a grower plans is his own individual problem. Just so long as he consults with experienced storage experts on the details of his plan.

The important thing for most any grower today is that he starts now to plan and, if possible, start on construction or conversion, as the case may be, to the end that sooner or later he has and operates his own fruit farm cold storage.

FREMONT MARKET

(Continued from page 8)

is the main office.

To insure buyers and consumers alike of a product which is of a standard uniformity the market has secured the assistance of M. W. Baker, Federal Supervisor of the State Fruit and Vegetable Grading Service. Twenty-five standard packages have been secured to be tried by producers and wholesalers. With the aid of Mr. Baker and with the cooperation of the buyers and growers it will be only a matter of a few months until the highest quality standard packed produce will be flowing to many parts of the country from the Fremont Wholesale Fruit and Vegetable Market.

Is the future outlook clear or hazy? Looking at the question from every angle the answer appears to be "good." Plans are already underway under Mr. Reading's supervision to urge growers to increase small fruit production, especially strawberries, red and black raspberries, sweet cherries and blackberries.

Credit for establishing this market should not only go to Mr. Reading, but to the hundreds of farmers and businessmen and officers alike who have invested their time and money.

NOVEMBER, 1942

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AMERICAN FRUIT GROWER

PAGE 11

TRADITIONAL AMERICAN FRUIT

(Continued from page 9)

makes an ideal bog if properly irrigated. Ditches, dikes and sluice gates to supply necessary water in summer, and to flood the bogs when frost threatens a crop in autumn are also essential.

The fruit grows on delicate-looking green vines which spread runners over the bog. Upright shoots between four and ten inches high bear the berries. The bogs, level as a drawing room floor are vividly green through the spring and summer. The first sign of the berries is a delicate pink blossom, which gives way as the flower petals fall to tiny green berries. During July and August the berries turn white, then as autumn coolness comes, the brilliant cranberry red indicates the crop is ready.

Despite all manner of modern methods in crop raising, hand-picking is still the method of harvesting. Attempts at machine picking have proved inefficient, since any machine-driven picker damages the vines. Wooden scoops about 15 inches wide with long 10-inch fingers about $\frac{1}{4}$ inch apart are pushed through the vines by pickers who crawl on their knees over the bogs. Screening to free the berries of leaves and vines is carried on in near-by screening and sorting plants.

Ten thousand people go annually into the bogs to harvest this crop which averages 600,000 barrels annually. Many are housed on the place by the cranberry growers. Others drive from nearby villages.

The demand for cranberries is usually larger than the supply, due to the relatively small areas where ideal growing conditions prevail. Despite the happy ratio of supply and demand, the marketing of the crop is a high tension procedure because of the short consuming season for the fresh fruit.

Since 1911, 65 percent of the crop has been distributed through the American Cranberry Exchange, a cooperative marketing organization which includes the principal growers in 3 main producing states. Founded on a basically democratic plan, the American Cranberry Exchange gives each grower one vote, regardless of his tonnage.

Although they were not cooperatives in the modern sense, forerunners of the American Cranberry Exchange were formed as early as 1895 for teamwork in selling cranberries. In 1895 a number of large growers in Massachusetts and New Jersey incorporated to form the Growers Cranberry Company. They employed the best cranberry salesman in the country and opened an office in Philadelphia. The Cape Cod Cranberry Sales Co., composed of Massachusetts growers, combined in the same year,

but were less successful. Neither of the companies was truly cooperative and both resorted to depressing prices and various cutthroat practices.

From Wisconsin in 1906 came the basis for the present cranberry cooperative. The Wisconsin Cranberry Sales Co., formed then, operated on broader lines than the two eastern companies. A year later the Wisconsin selling agent came east to explain his company's organization to New Jersey and Massachusetts growers and the New England Cranberry Sales and the New Jersey Cranberry Sales Companies came into being, patterned after the Western organization. The same year, 1907, marks the formation of the National Fruit Exchange, in which growers from all three sections—Massachusetts, Wisconsin and New Jersey—joined forces. Until 1911 this cooperative competed with Growers Cranberry Company, at which time the two merged to form the American Cranberry Exchange.

Since that merger the present Exchange has reduced the marketing cost of cranberries to what is believed to be one of the lowest, if not the lowest figure in American fruit statistics. Today, the growers receive 54 percent of the consumer's dollar.

Last year's crop which totaled 735,200 barrels was the third largest crop on record from 1931-1941, the eleven year crop average was 610,491 barrels. Heaviest consumers of the cranberry are found through the mid-western states, where the preponderance of the population stems from northern Europe and is of Anglo-Saxon blood. Advertising and publicity campaigns have in recent years aroused more general interest in the use of cranberries with meats other than fowl, and city as well as farm housewives are now familiar with the many tasty cranberry salad, relish and dessert recipes.

EARTHWORMS

(Continued from page 10)

upper to lower boxes, and lugs are numbered and rotated one above the other, since worms have a tendency to bore downward to lower boxes. Corn meal may be sprinkled on top and often barley is sprouted in the boxes for food and to keep compost sweet.

A hand down into a culture bed brings

up a mass of wriggling worms—and maybe egg capsules. Beds have to be searched at intervals for these. "Spawn bricks" are eight ounce spice cans of worm culture just as it comes from the culture bed, each containing approximately 75 egg capsules, breeders and worms for shipment. Feedings need not be perfectly timed, but water must be plentiful. Temperature has to be kept below eighty and above freezing, though they are capable of surviving above one hundred degrees and of hibernating in cold weather. They can be raised in the desert where summer temperatures are high if brick culture beds are used, with a burlap cover over which water drips for cooling.

Among the best customers are orchardists and home owners either with large acreage or small plots of ground under cultivation. A California rancher with 1,500 acres raises beans, and used bean straw and manure for compost piles, which he impregnated with earthworms, making it possible to develop worm colonies at small cost. Earthworm farmers are encouraged to grow their own plants and vegetables as demonstrations with and without soilution worm culture, but customers are supplied according to their individual needs. Some do not care to develop culture beds. Many \$1.00 units go out daily, though mostly \$25 and \$100 units are sold for large scale undertakings.

Mrs. Anne Warner has developed extensive colonies in Worthington, Ohio, introducing worm culture in that state as a representative of the California Farms. A man in England wrote offering \$5,000 for the privilege of being their representative in that country, and had purchased his first \$100 when the war broke out. There are a number of small farms in California—some purely hobby farms. A stenographer in Los Angeles bought citrus acreage and is using soilution culture to improve average trees and revitalize sick ones.

Women are encouraged to start small colonies in their back yards to enrich their own plants, selling the surplus to their neighbors. Soilution worm culture is a boon to hobbyists, since both space and attention are at a minimum. Colonies can be started in the back yard, orchard, garden, or in a window box. There are window-sill experimenters developing a stock from fifty egg-capsules, which can be started in an ordinary flower pot. A Los Angeles woman living in an apartment says:

"I have four window boxes, 30 by 8 $\frac{1}{2}$ by 7 inches, in which I grow flowers and enough carrots, lettuce and parsley to supply my own table." Another, living in a hotel, is having fun finding out how the perfect cycle of interdependency between plant and animal life works out. She has a canary bird, growing plant and tropical fish. Droppings from the bird cage (along with cake crumbs, coffee grounds, etc.) go to feed the earthworms, which impregnate the soil, in which is sprouted the bird seed, which feeds the bird, and surplus worms are fed to the fish.



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CALENDAR OF COMING MEETINGS and EXHIBITS

- Nov. 12-13—Iowa State Horticultural Society 77th annual meeting, Iowa Fruit Growers' Association 31st annual meeting, 31st meeting of the Iowa Beekeepers' Association, Iowa Nut Growers' Association, and the Little Mid-West Horticultural Exposition staged by the horticultural students of Iowa State College, Iowa State College, Ames.—R. S. Herick, Sec'y, Des Moines.
- Nov. 17-18—New Hampshire Horticultural Society annual meeting, Hotel Carpenter, Manchester.—Alfred L. French, Sec'y, Concord.
- Nov. 17-18—Annual convention of the Wisconsin State Horticultural Society, Fort Atkinson.—H. J. Rahmlow, Sec'y, Madison.
- Dec. 1-3—Michigan State Horticultural Society, Civic Auditorium, Grand Rapids.—H. D. Hootman, Sec'y, East Lansing.
- Dec. 1-3—Annual meeting of the New Jersey State Horticultural Society, Walt Whitman Hotel, Camden.—Arthur J. Farley, Sec'y, New Brunswick.
- Dec. 3-4—Kansas State Horticultural Society annual meeting, Manhattan. The Kansas nurserymen will meet in conjunction.—Geo. W. Kinkead, Sec'y, Topeka.
- Dec. 4-5—Montana Horticultural Society annual meeting, Orchard Homes, Missoula.—George L. Knight, Sec'y, Missoula.
- Dec. 8-9—Connecticut Pomological Society, Garde Hotel, Hartford.—H. A. Rollins, Fruit Specialist, Storrs.
- Dec. 8-9—The Western Nut Growers' Association, which includes the walnut and filbert growers of Washington, Oregon, and British Columbia, will hold its annual meeting at McMinnville, Oregon.—O. T. McWhorter, Sec'y-treas., Corvallis.
- Dec. 8-10—Virginia State Horticultural Society 47th annual meeting, Stonewall Jackson Hotel, Staunton.—W. S. Campbell, Sec'y, Staunton.
- Dec. 10-11—Peninsula Horticultural Society annual meeting. Fruit meeting at Dover on the 10th, vegetable meeting, Bridgeville, Dec. 11th.—T. F. Manns, Sec'y, Newark.
- Dec. 11-12—The annual meeting of Oregon State Horticultural Society, Hood River.
- O. T. McWhorter, Sec'y-treas.—Corvallis.
- Dec. 14—Missouri Horticultural Society annual meeting, Hannibal. Will adjourn to attend Illinois Horticultural Society meeting on 15th and 16th in Quincy, Illinois.
- Dec. 14-16—87th annual convention of Illinois Horticultural Society, Quincy, in connection with the national meeting of the American Pomological Society.—C. C. Mast, Sec'y, Quincy.
- Dec. 14-16—Washington State Horticultural Society 38th annual meeting, Wenatchee.—John C. Snyder, Extension Horticulturist, Pullman.
- Dec. 16—Arkansas State Horticultural Society annual meeting, Springdale.—Earl J. Allen, Extension Horticulturist, Fayetteville.
- Dec. 17-18—Annual meeting of the Indiana Horticultural Society, Severin Hotel, Indianapolis.—Monroe McCown, Sec'y, Lafayette.
- Jan. 6-7—Annual meeting of the Massachusetts Fruit Growers' Association, Worcester.—W. R. Cole, Sec'y, Amherst.
- Jan. 6-7—Annual meeting of Maryland State Horticultural Society, Hagerstown. Subject to change.—A. F. Vierheller, Extension Horticulturist.
- Jan. 12-14—Pennsylvania State Horticulture Association annual meeting, Harrisburg.—J. U. Ruef, Sec'y, State College.
- Jan. 22—The annual meeting of the Minnesota Fruit Growers' Association will be held with the Minnesota State Horticultural Society at University Farm, St. Paul, during the Farm and Home Week, January 18 to 23. The exact date for the meeting is tentative, but it is expected to be held on Friday, January 22.—J. D. Winter, Sec'y, Mound.
- Jan. 26-28—Annual meeting of the Ohio State Horticultural Society will probably be held in connection with Farmers' Week, Ohio State University. The exact dates will be announced later.—Frank H. Beach, Extension Horticulturist, Columbus.
- Feb. 10-11—West Virginia State Horticultural Society annual meeting, Martinsburg.—Carroll R. Miller, Sec'y, Martinsburg.

HOW STRONG IS YOUR PATRIOTISM?

HERE is a really valuable antique. The White automobile is a 1913 model and was the cherished relic of Robert Black, president of the White Motor Company. The 1913 car has been a curiosity and a source of amusement for the many friends of its owner. In addition to this car, a 700-pound French-built Clement of 1907 vintage, was sent to the "scrap pile." These old superannuated automobiles were striking examples of progress in motor car design and yet the owners parted with them to provide badly needed scrap, to keep America's steel mills roaring.

Such patriots ought to inspire farmers and fruit growers to dispose of machinery, tools, and metal parts which no longer serve a useful purpose. Any piece of metal which has not been used for years is not likely to be of service to the farmer or fruit grower and should be hauled to a scrap center.

You can best show your patriotism by co-operating in the present vital scrap metal campaign.

NOVEMBER, 1942



This 1913 White passenger car came out of retirement early in October and joined the Scrap Pile on Cleveland's Public Square. Taken from the White Motor Company's Museum, the veteran travelled to the Square under its own power. Soon the metal in it will be converted into a Half-Trac.

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STATE NEWS

MICHIGAN—At the annual meeting to be held on December 1, 2 and 3, at Grand Rapids, machinery exhibits will be greatly reduced and we anticipate that the apple exhibits of the Michigan Apple Show will help to take much of the space formerly occupied by spray machinery. There will be the usual exhibits of nursery stock and spray materials.

The fact that Grand Rapids is centrally located to the commercial sections of our state as well as being a railroad and bus terminal, will assure a good attendance of commercial fruit growers.

Apple harvest is under way and our growers have experienced severe shortages of apple pickers and particularly of men who were able to handle apple crates. In some orchards as high as 15c per bushel has been paid to get apples picked.—H. D. Hootman, Sec'y, East Lansing.

KANSAS—The apple harvest is about completed. Prices were fair to good, but many choice Jonathans and Grimes went to the ground, due to lack of help to harvest this crop at the right time.

Two of the out-of-state key speakers, who have been engaged for our annual meeting to be held December 3-4, at Manhattan, Kansas, are Dr. J. C. Dunegan, U.S.D.A., who will speak on Apple Scab and the latest information regarding its control, and Prof. J. R. Cooper, University of Arkansas, who will discuss peach culture.—Geo. W. Kinkead, sec'y, Topeka.

MINNESOTA—Apple growers in the Lake Minnetonka region met at Excelsior on October 7 to formulate plans for an orchard protection program with particular reference to the control of apple maggot and apple rust. Losses during the past three years in this region have been in excess of one hundred thousand dollars annually, largely due to injury caused by these pests. In some instances growers lost their entire crop.

John L. Westrum, president of the Excelsior Fruit Growers' Association, was in charge of the meeting. Pledges were signed by many growers to remove rust susceptible red cedar trees from their premises as well as neglected or useless apple trees, to practice good orchard sanitation, and to follow a thorough spray program.

A definite program to carry out these objectives and to furnish adequate pest control information has been set up by a special committee working with the office of the State Entomologist, the County Agricultural Agent, and the Extension Service of the University of Minnesota.—J. D. Winter, Sec'y, Mound.

NEW HAMPSHIRE—Apple growers were faced with three-fold difficulties this fall in the harvesting and marketing of their fruit. In the first place there was a very serious shortage of labor and had it not been for the good services rendered by the high school boys and other volunteers, only a small part of the crop would have been picked. As it was, many of the Macs dropped before they could be harvested. The second difficulty was in obtaining boxes, which added to the harvesting problem and made it impossible to market some Macs before they became overripe, and prevented the harvesting of some of the Baldwins before real cold weather. The third difficulty was in the lack of sufficient cold storage space, which meant that growers could not get their fruit under cover and also that buyers were scarce because they had no cold storage space.

However, the vigorous work by agricultural organizations including the New Hampshire Farm Bureau, the New Hampshire Horticultural

Society, and the market cooperatives, such as the Souhegan Apple Packing Association, Agricultural Service, Inc., and Merrimack Farmers' Exchange, resulted in a solution of these problems to a considerable extent.—Alfred L. French, Sec'y, Concord.

VIRGINIA—Harvesting of a splendid apple crop, somewhat larger than that of last year, has just been completed. Size and quality and color were all good. Government purchases and the takings of the by-products plants relieved what might have been a rather heavy market, although canning plants ran into difficulty because of a shortage of tin. This, however, is being relieved to some extent by an increased allocation of tin sufficient for canning an additional half million bushels of apples, all for sliced product, but none for canned sauce.—W. S. Campfield, Sec'y, Staunton.

TENNESSEE—The Bonham Brothers' 325-acre apple orchard is located up—5,000 feet up—in Shady Valley, Tennessee. (The "shade" comes from 6,000-ft. peaks nearby.) Last year, harvesting the 180,000 bushel crop took until mid-November, but labor shortage and an early freeze are spurring the harvest of the 75,000 bushel crop this year. Orchard Manager Paul Barr had set October 20 as the



picking deadline this year. It was inspiration to watch this war-whittled crew of pickers tackle the job. They were paid by the box and had little interest in the time as long as there was enough of it. The orchard foreman pointed out a picker with one arm amputated below the elbow, who had sent in 81 boxes the day before. He did his own ladder work, too, hooking the arm stump over each rung as he climbed or reached for fruit, often 18 to 20 feet from the steep, rocky ground. Think this over and preach your own sermon.—A. N. Pratt, Horticulturist, Nashville.

RHODE ISLAND—Fruit growers have used all kinds of labor for the apple harvest; school children, mill workers on their days off, college students, office workers and firemen and policemen. Reports indicate that firemen and policemen were very satisfactory. While many thousands of bushels have been lost, the bulk of the crop has been harvested. Due to shortage of storage space sales are being made to the A.M.A.

Edwin Knight of Greenville has given much of his valuable time in helping other growers locate help and supplies. Mr. Knight is chairman of the County War Board.

Many mice are to be found in orchards this fall and a baiting program is planned as soon as fruit is harvested.—E. P. Christopher, Sec'y-Treas., Kingston.

AMERICAN FRUIT GROWER

WISCONSIN—Chief topic for discussion at the annual convention of the State Horticultural Society will be the control of apple maggot which was very serious in some sections of the state this year. Dr. C. L. Fluke, Chief of the University Entomology Department, will discuss the topic.

Out of state speakers will be Dr. H. B. Tukey, Geneva, New York, and Dr. W. G. Brierley, Minnesota Horticulture Department.

The principal feature of the fruit show will be exhibits of new varieties of apples which are replacing many older varieties in Wisconsin.—H. J. Rahmlow, Sec'y, Madison.

INDIANA—A dozen Indiana apple growers earned gold medals by producing apple crops grading from 90 to 99 percent U.S. No. 1, while three additional growers will receive silver medals for crops scoring slightly under 90 percent top quality. The gold medal growers for 1942 are V. V. Clarke, mgr., Bristol Orchards, Inc., Bristol; Floyd Jacoby, Plymouth; Toy Tuttle, Greenfield; John F. Bigley, Culver; Martin Davis, Daleville; L. V. Doud, Wabash; C. E. Judson & Son, Bristol; John Williams & Son, Three Oaks, Michigan (La Porte County); L. J. Doud, Wabash; Earl Kuhns, Muncie; Dr. F. A. Kennedy, Connersville; and Winston J. Teel, Owensville. Those earning silver medals are Lester Musgrave, Bloomington; W. W. Doud, Denver; and Gregory Orchards, T. Jones, mgr., Mooresville.—Monroe McCown, Sec'y, Lafayette.

SOUTH DAKOTA—The apple crop was good, generally throughout our state and brought remunerative prices. Clarence Satnan reports little damage from codling moth, which he ascribes due to the very wet early season, inhibiting the activity of the moths, rather than to extra careful spraying. His Duchess brought \$2 per bushel and his Wealthy \$1.50, all sold at the orchard. *

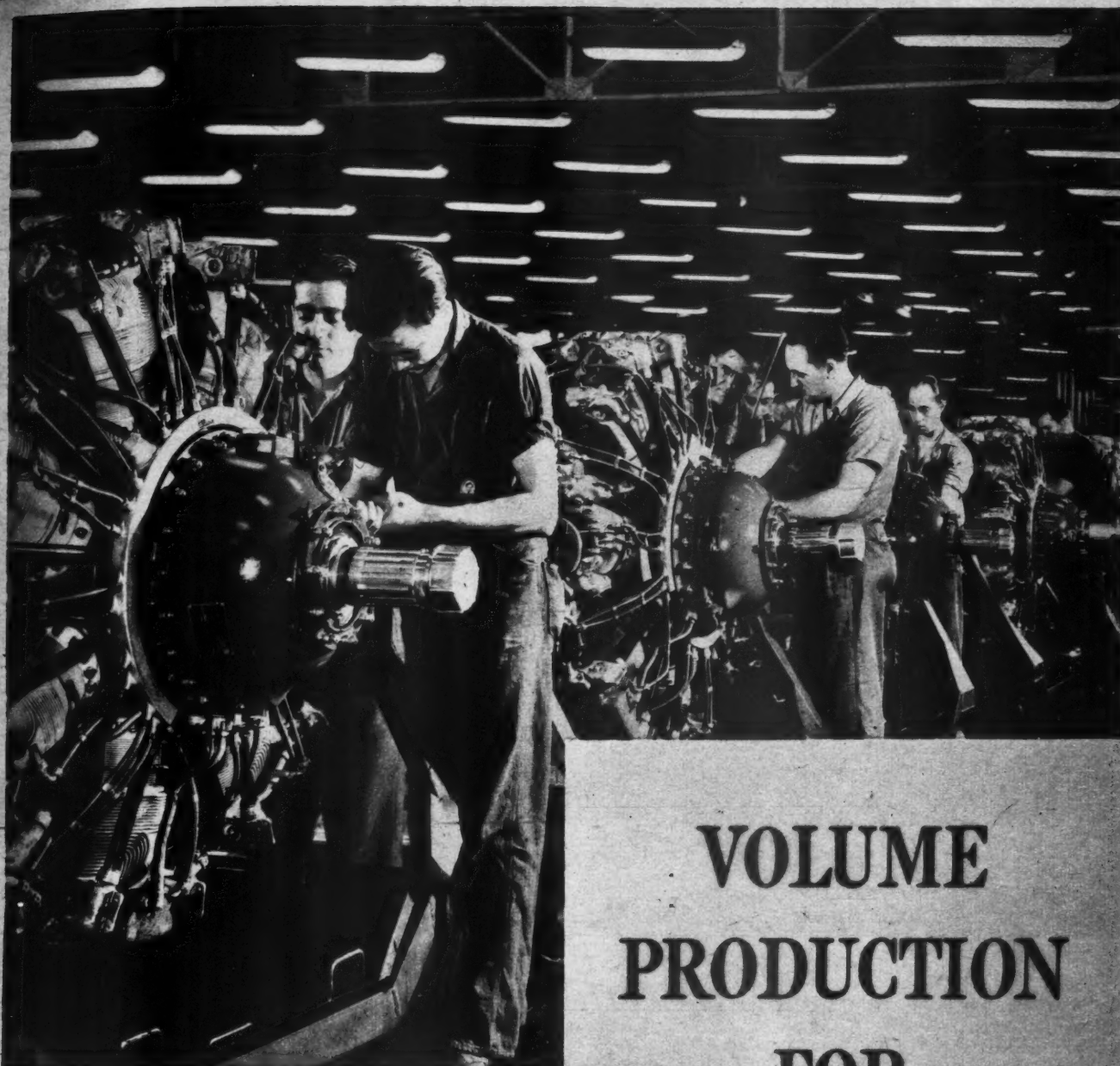
Locally grown apples have long since been consumed and now we are dependent on the stores for the apples we get and the stores are not making any effort to sell them. Indifferently finished McIntosh, some wormy, are being sold at 7c per pound and Jonathans, the same. This is not a price calculated to move apples in quantity.—W. A. Simmons, Sec'y, Sioux Falls.

IOWA—Growers are securing very good prices for their apples, many of which are being sold at the orchard. The heaviest crop exists in southeastern Iowa.

The latest fruit condition report for Iowa would indicate a commercial apple crop of 353,000 bushels for this year. Last year the state produced commercially but about 48,000 bushels. This was due to the damage done by the 1940 freeze. The quality of this year's crop for the most part is very good. Some scab and worms found in some orchards.—R. S. Herrick, Sec'y-Treas., Des Moines.

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